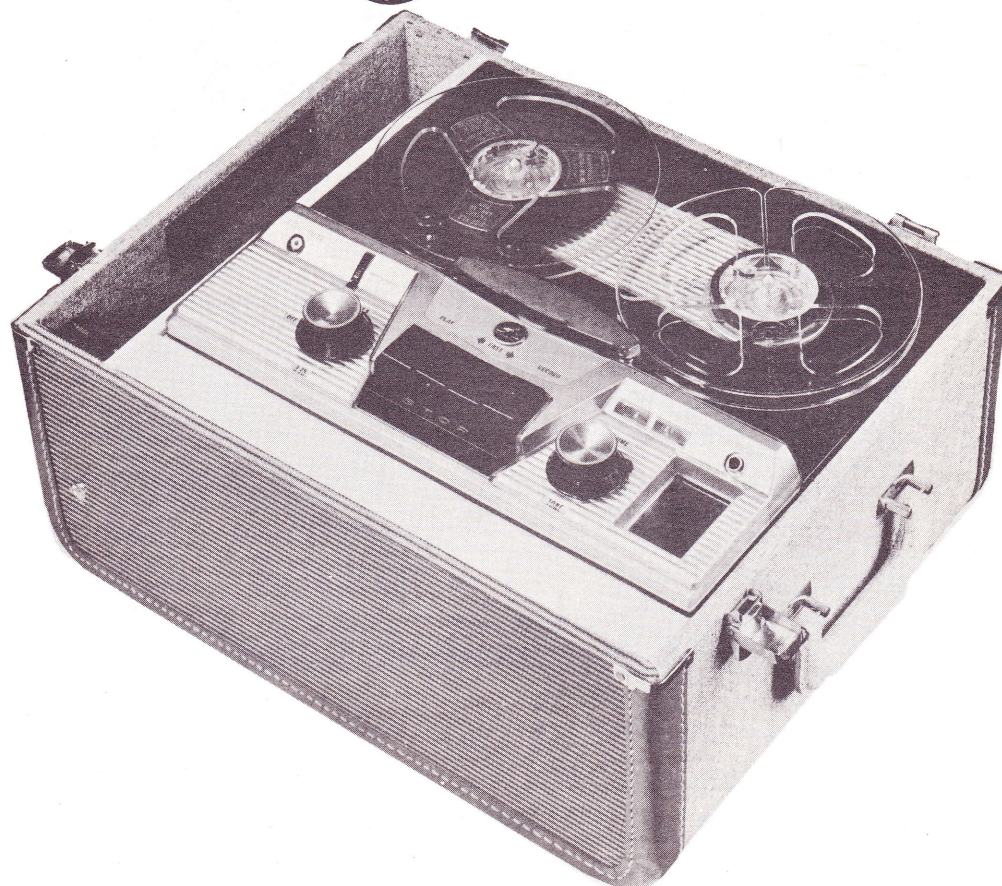




RCA VICTOR
MODELS 7-TR-2, 7-TR-3



RCA VICTOR
MODELS 7-TR-2, 7-TR-3

GENERAL INFORMATION

The RCA Models 7-TR-2 and 7-TR-3 Tape Recorders features fingertip operation for Fast Forward, Playback, Stop, Record and Fast Reverse. This recorder is designed to record and playback two tracks of material on standard width recording tape, which doubles the playing of a reel with no loss of frequency response or quality. Recordings can be made from a radio, television receiver or phonograph, in addition to those made directly from the microphone. Recordings can be played back through the self-contained speakers or an external speaker may be used through use of the Auxiliary Speaker Jack on Model 7-TR-3.

A window-type tape counter is used on Model 7-TR-3 whereas Model 7-TR-2 has a numbered scale on the metal base to help locate desired selections on the tape.

Models 7-TR-2 and 7-TR-3 have two tape speeds, 7 1/2 ips and 3 3/4 ips. Using both tracks, the recording time is as follows:

Reel Size	3 3/4" Speed	7 1/2" Speed
5" (600 ft.)	1 hour	1/2 hour
7" (1200 ft.)	2 hours	1 hour

CAUTION: Severe damage will result if connection is made to a direct current (DC) line.

Manufactured by:

Radio Corporation Of America
RCA Victory Radio And "Victrola" Division
Camden, New Jersey

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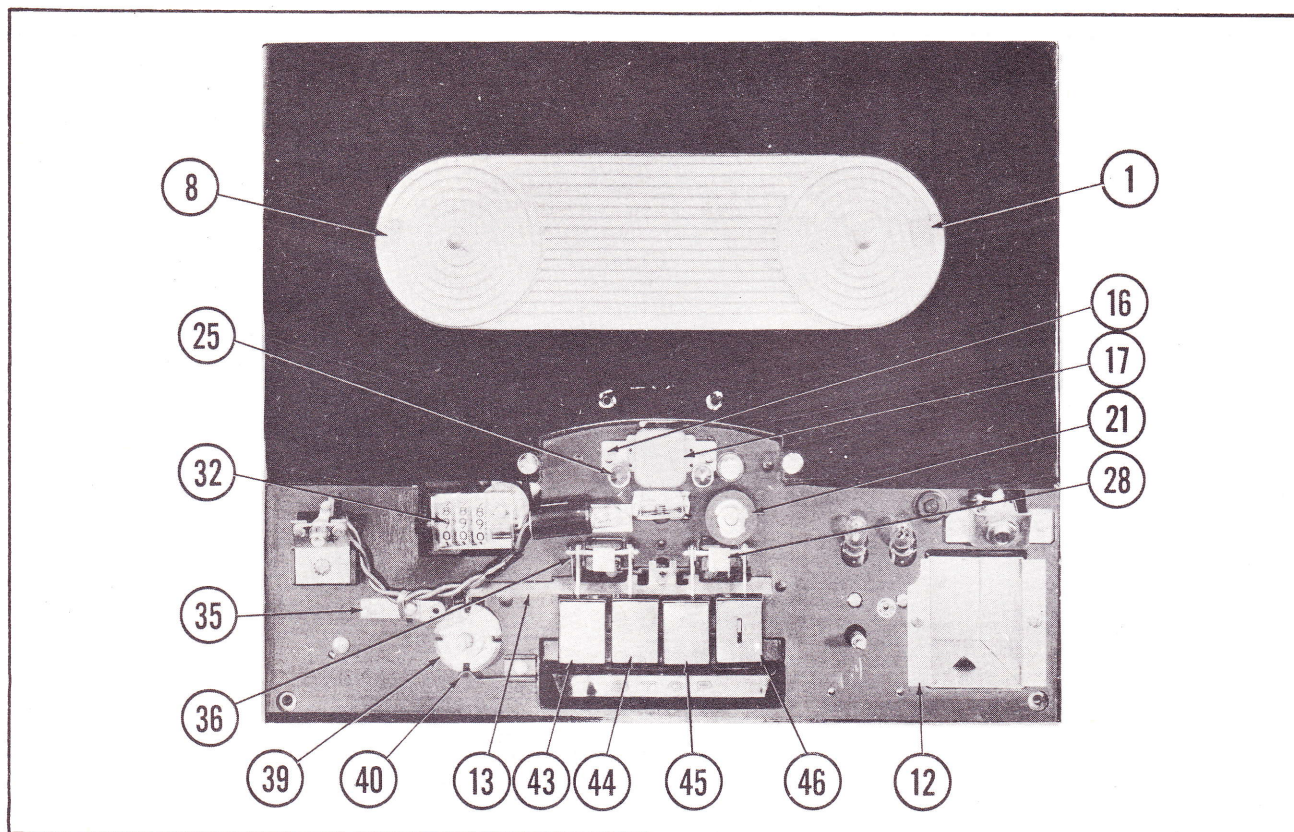


FIGURE 1

SPECIFICATIONS

Rewind Time: 7" Reel (1200 ft.) in less than 2 1/3 min.

Tape Speed: 3.75 ips or 7 1/2 ips.

Inputs: High impedance with preamplifier for microphone. High impedance for record player or radio tuner. Low impedance source can be used.

Tube Complement:

1. 5879: Oscillator & Tape Preamp.
2. 12AX7: Two Stage A. F. Amplifier.
3. 6AQ5: Output
4. 6X4: Rectifier

Chassis Designations:

Model	Amplifier Chassis	Tape Transport
7-TR-2	RS-156B	TR-2-2
7-TR-3	RS-156	TR-2-1

Power Supply Rating: 115 volts, 60 cycle, 100 watts.

Power Output: 2.5 watts undistorted.

Speakers:

- One 5" x 7" PM (Model 7-TR-2, 3.2 ohm).
- One 6 1/2" PM (Model 7-TR-3) 3.2 ohm).
- Two 3 1/2" PM (Model 7-TR-3) 7 ohm

Cabinet Dimensions: Height 9-5/16", Width 18-1/16", Depth 14-9/16".

Weight: Model 7-TR-2 -- 33 1/4 lbs. Model 7-TR-3 -- 38 lbs.

OPERATING INSTRUCTIONS

1. Plug the AC cord into a convenient wall receptacle of the proper rating.

2. Turning the Power-Speed control (9) turns the recorder "ON" and at the same time selects the speed at which it is desired to record or play.

Threading The Tape-

With the "Stop Bar" (47) depressed, place an empty reel on the right hand (take-up) spindle (1). Place a full reel of tape on the left hand supply spindle (8) so that the reel will turn counterclockwise when tape is pulled from the reel. Make certain that the reel protrusions on the spindles engage the slots in the hub of the reels and that the reels are fully seated. Reel out about two feet of tape and feed the loose end up into the empty reel on the right spindle. Thread the tape into one of the slots in the outer surface of the hub. Hold the loose end between the fingers and slowly rotate this reel counterclockwise through a couple of revolutions. While taking up slack in the tape between the two reels the tape will automatically drop into the tape slot.

To Record From Microphone-

1. Insert the microphone plug into the "Mic" input jack.

2. Turn the Power-Speed control "ON" and allow approximately 30 seconds for the unit to warm up.

3. Unlock and push the "Record" button. Observe the "Record Level" indicator lamps while speaker into the microphone. Occasional flickering of the

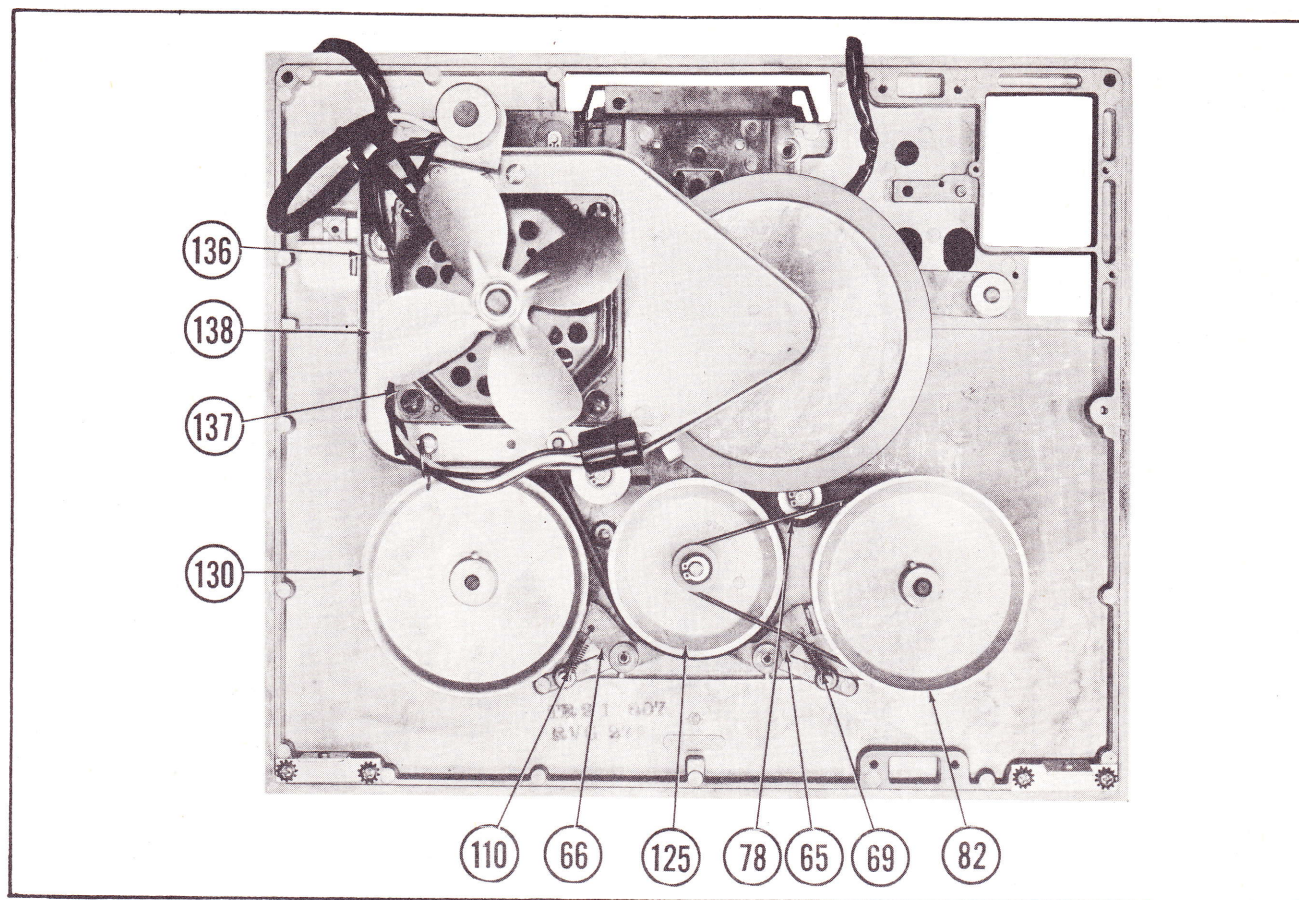


FIGURE 2

"Overload" lamp indicates a good, high level of recording, however, continuous glowing or flashing in this lamp indicates that the "Volume" control setting must be reduced. Be sure that the "Normal" lamp glows fairly full and steady or you may not be recording properly, if at all.

NOTE: The "Tone" control is inoperative when recording.

To Record From Radio, TV, Or Phonograph-

1. Take the radio-phono attachment cord from the storage compartment.
2. Turn off power to the recorder.
3. With the two alligator clips on the end of the radio-phono attachment cord, connect across the amplifier output or voice coil on the speaker of the radio, phono, or TV set.
4. Insert the plug of the radio-phono cord into the Radio-Phono input jack on the front panel of the recorder.
5. Proceed with the recording as described in "To Record From Microphone".

To Play A Recording-

1. Thread the tape as described under "Thread- ing The Tape".
2. Turn the Power-Speed control "ON" and allow about 30 seconds for warm up.

3. Depress the "Play" button until it is latched into position.

4. Adjust the "Volume" and "Tone" controls for desired level.

Double-Track Recording-

The RCA is designed so that only 1/2 the tape width is recorded at a time, thereby resulting in double-track recording. This double track operation is accomplished in the following manner:

1. After a reel of tape has been recorded, i.e. all the tape wound onto the take-up reel, depress the "Stop Bar". This stops all movement of the tape.
2. Remove the reels from the recorder, turning the full reel over and placing it on the left spindle and the empty reel on the right spindle.
3. Properly thread the tape and proceed with the recording.
4. After the second track has been recorded the first track is ready to be played, without rewinding, as follows:
 - (a) Place the full reel of tape on the left spindle and the empty reel on the right spindle.
 - (b) Thread the tape making sure the dull side faces the play-record head.
 - (c) Set the controls as described under "To Play A Recording".

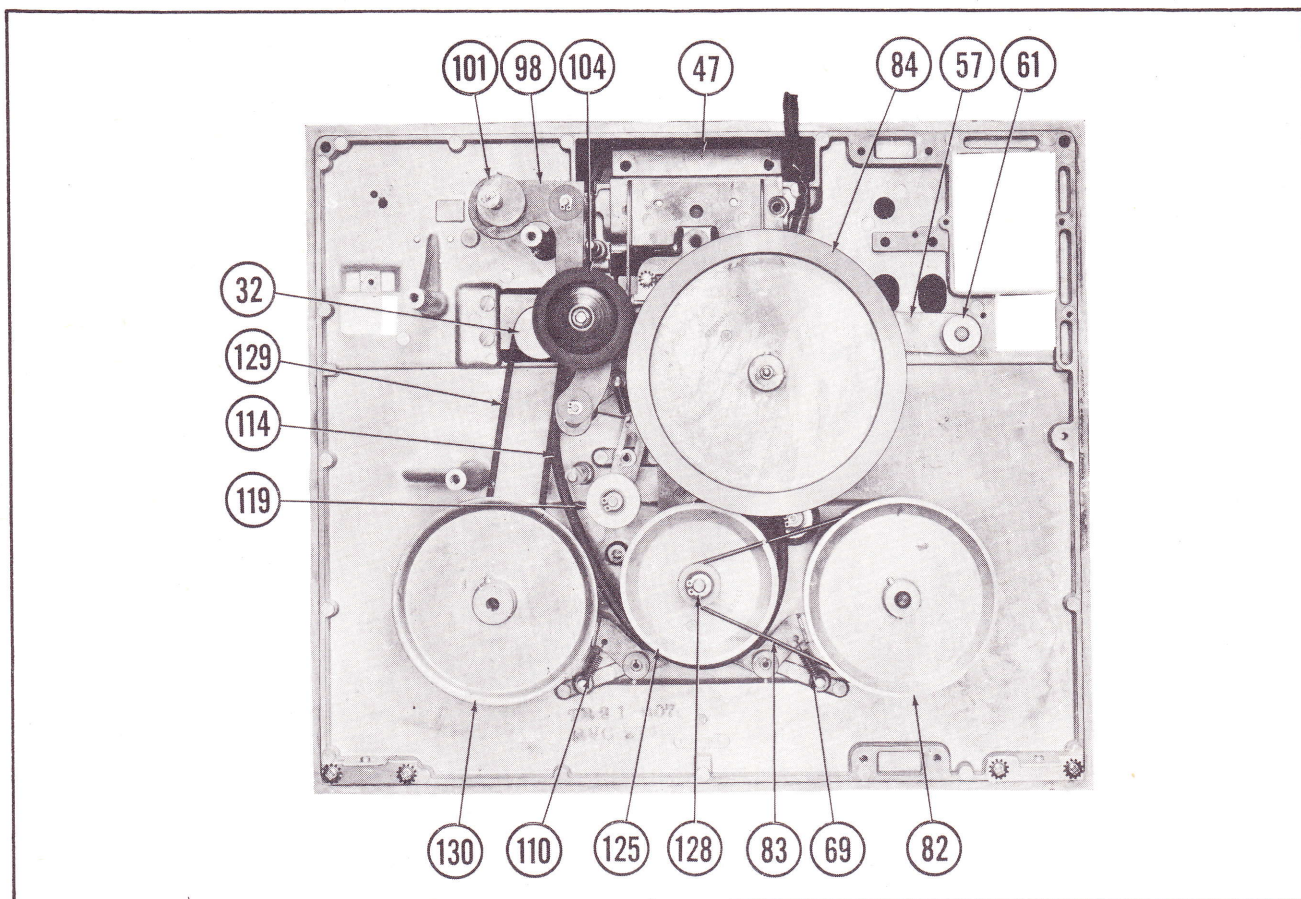


FIGURE 3

To Edit And Splice Tape-

NOTE: Since it is impossible to edit and splice one track without affecting the other, recordings which are to be edited should be limited to one track only.

1. The tape may be edited by cutting out unwanted portions, or by joining selections into another sequence. Announcements may be inserted between selections, etc. Unused sections of tape can be spliced together for re-use.

(a) Cut tape at 60° angle with an overlap so ends will line up. (Cutting tape at 60° angle will eliminate detection of splice on recording.)

(b) Align both ends of tape, with glossy side up.

(c) Cover aligned ends with splicing tape, evenly and securely.

(d) Trim off excess splicing tape. (Cut into the recording tape very slightly.) This eliminates possibility of a sticky splice.

Fast Forward And Fast Rewind-

High speed forward or rewind can be obtained by pressing the desired button. These functions are used primarily in locating a desired portion of a recording in a few seconds. You may press the Fast Forward or Fast Rewind buttons only when recorder is in the "Stop" position.

Program Indicator-

The tape counter or program indicator registers "000" to "999" and will save much guesswork when trying to locate a desired portion of a pre-recorded tape. The reading of the indicator may be noted as the recording is being made so that reference to any given point on the tape may be made very rapidly. When a recorded tape has been so logged or referenced, always "zero" the indicator before starting to play the recording. This should be done before tape is threaded on the take-up reel. Press the "Forward" button and observe the indicator. Use the "Stop Bar" when approaching "000" and then the last few digits can be turned off manually by spinning the take-up reel with the fingers.

Speed Change-

The Power Speed control can turn the instrument "ON" and at the same time select the speed at which you wish to record or playback. This knob locks, and cannot be turned while either the "Fast Forward" or the "Fast Rewind" button is pushed down. When Power Speed control is turned clockwise a speed of 7 1/2 inches per second is obtained, when control is turned counter-clockwise a speed of 3 3/4 inches per second is obtained.

Using Remote Control-

To operate recorder remotely it is only necessary to follow these simple steps after first making sure recorder power is "OFF":

1. Set indicator knob on remote control unit to "OFF".

2. Insert plug of remote control unit into remote control socket at back of tape recorder, found only on model 7-TR-3.

3. Prepare recorder and thread tape as described under "Threading The Tape". Make sure Remote-Local switch is set at "Remote". If you wish to record remotely, set recording level as described under "To Record From Microphone". If you wish to playback remotely, set volume and tone at the recorder. Make sure Voice Music switch is set properly.

4. If you wish to record, push Record key; if you wish to playback, push Play key. You can now operate your recorder remotely.

5. Turn indicator knob on remote control unit to Motor "ON", pause briefly to allow tape to attain proper recording or playback speed, then turn to "Play-Record". The recorder will operate in accordance with the setting of the push buttons on the recorder.

6. To stop the recorder, turn indicator knob of remote control unit to "OFF" pausing briefly again as you pass through Motor "ON" position.

7. When you finish operating recorder remotely, depress stop bar, and make sure you return Remote-Local switch to "Local" position. Turn recorder power "OFF".

ELECTRICAL ADJUSTMENTS

Playback-Record Head Adjustment-

It is very important that play-record head (17) be lined up perfectly with the tape. If it is not, low output, loss of high frequencies or track overlap may result.

1. Thread a standard frequency tape on the recorder.

2. Playing the 1000 cycle part of tape, adjust right hand tape guide (25) for maximum output; adjust left hand tape guide so that tape is approximately level across front of head.

3. While playing the 12,000 cycle section of tape; adjust head mounting screws (16) for the angular position of head which will give maximum output. Head should be as far forward as possible and mounting screws must be tight.

4. (a) Record a 1000 cycle signal on an unrecorded tape, (b) rewind, (c) depress record button (46) with no signal input so that recorded signal will be erased, (d) rewind again and (e) depress "Play" button. The recorded signal should be reduced at least 40 db during erase. If necessary, to meet this requirement, adjust left hand tape guide (25) down or up to align tape with erase slot in the head.

Oscillator Frequency-

The oscillator frequency is fixed at approximately 45 KC although the frequency is not critical. The oscillator frequency does not require adjustment.

Recording Bias Adjustment-

The recording bias should require adjustment only if the 5879 tube is replaced. The bias adjustment

trimmer (M9A) is accessible without removing the recorder mechanism from the cabinet. It is necessary only to remove the bottom cover from the cabinet.

To adjust the bias proceed as follows:

1. Connect an a. c. VTVM to test point TP-1. (See Schematic).

2. Turn the recorder "ON" and depress "Record" pushbutton (46).

3. Turn volume control to minimum (counter-clockwise.)

4. Adjust trimmer (M9A) to obtain meter reading of 0.46 volts r. m. s.

Recording Level Indicators Adjustment-

Recording level indication is given by two neon bulbs type Ne-51. Indicator level adjustment should be required only if a neon bulb is replaced. The firing level of the recording indicators is adjusted by means of two trimmers (M9B) and (M9C). The trimmers are accessible after the cabinet bottom cover is removed.

To adjust indicator firing level, proceed as follows:

1. Connect a low capacity type a. c. VTVM to test point TP-1. (See Schematic).

2. Connect an audio oscillator, set at 1000 cycle into the Radio-Phono input jack. Use approximately 2 volts input from oscillator.

3. Turn the recorder on and depress "Record" pushbutton.

4. Adjust the volume control to obtain a reading of 1.0 volt r. m. s. on the VTVM.

5. Adjust the "normal" indicator trimmer (M9B) first clockwise until normal bulb does not light and then slowly counter-clockwise so that upon loosening the trimmer, the normal bulb barely lights.

6. Increase the volume control setting to obtain a reading of 1.5 volts on the VTVM.

7. Adjust the "overload" indicator trimmer (M9C) first clockwise until "overload" bulb does not light, and then slowly counter-clockwise so that upon loosening the trimmer, the "overload" neon bulb barely lights.

Hum Control Adjustment-

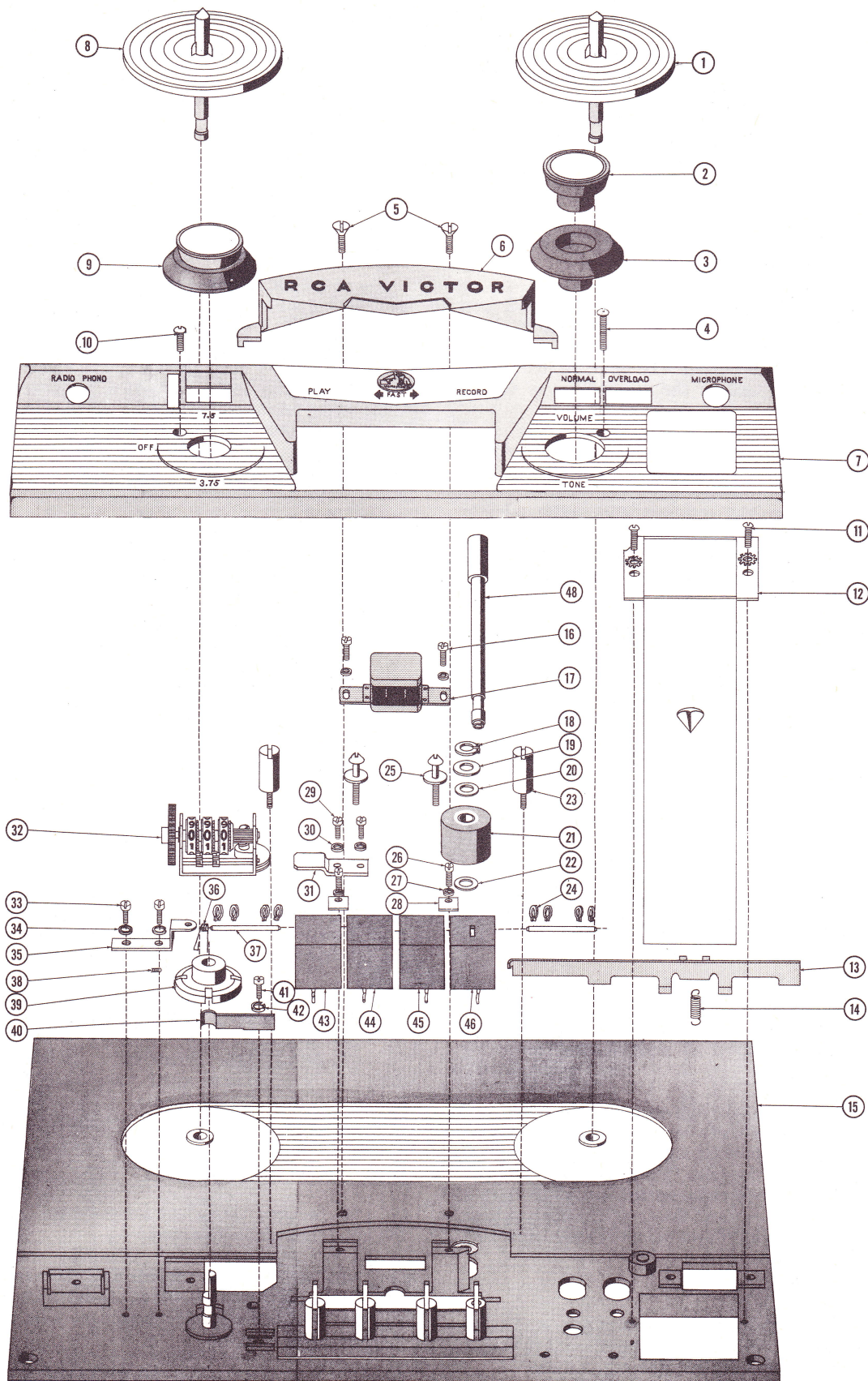
It is very important for playback purposes that the hum control be adjusted.

To set the hum control turn the recorder "ON" and allow the tubes to warm up advance the volume control to maximum and, adjust the hum control (R2) for minimum hum.

MECHANICAL ADJUSTMENTS

Pressure Pad Adjustment-

The tension of the pressure pad spring (R2) is fixed in its mounting and the only adjustment is by the



A PHOTOFACT "EXPLODED" VIEW
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FIGURE 4A. EXPLODED VIEW OF PARTS ABOVE BASEPLATE.

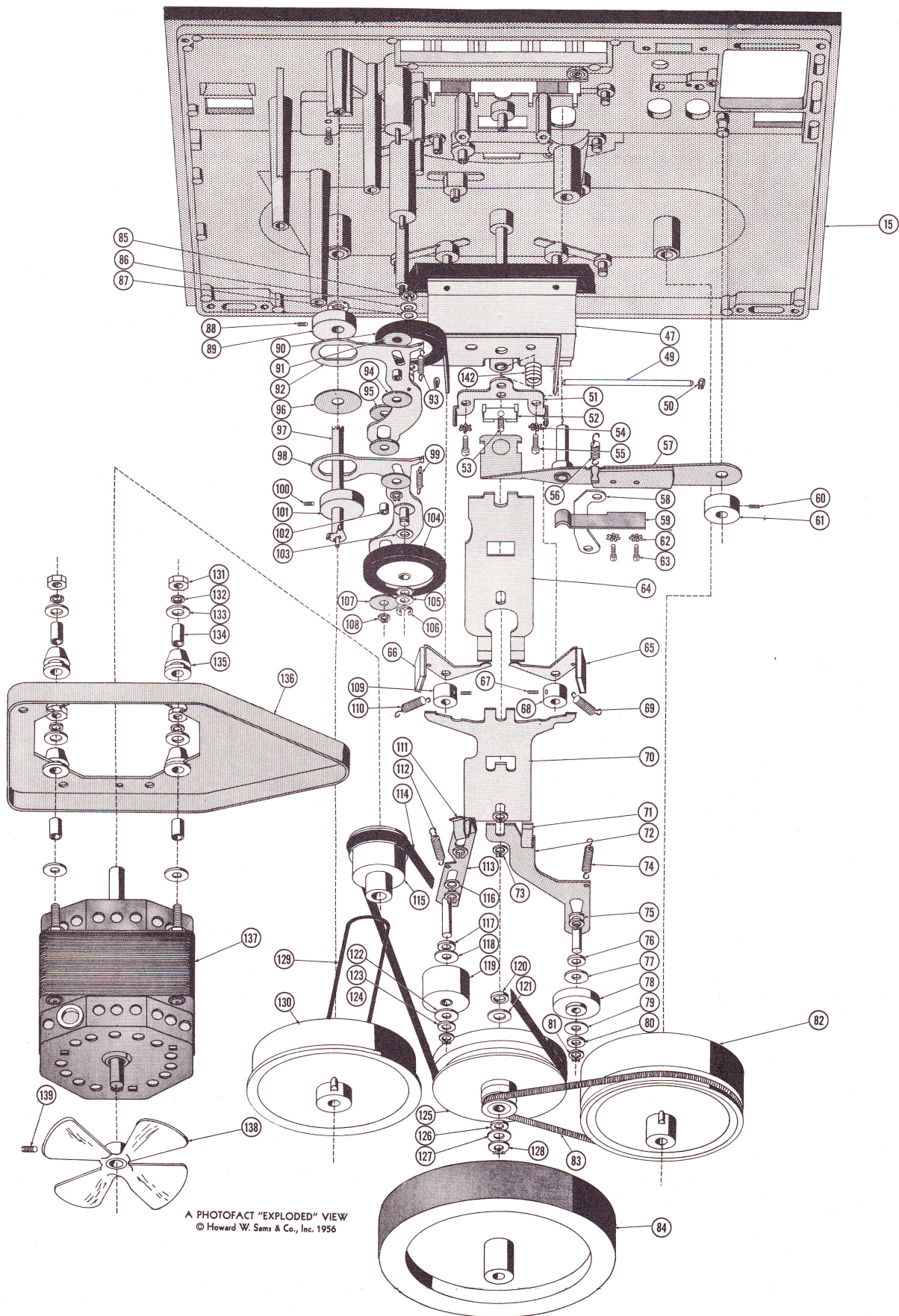
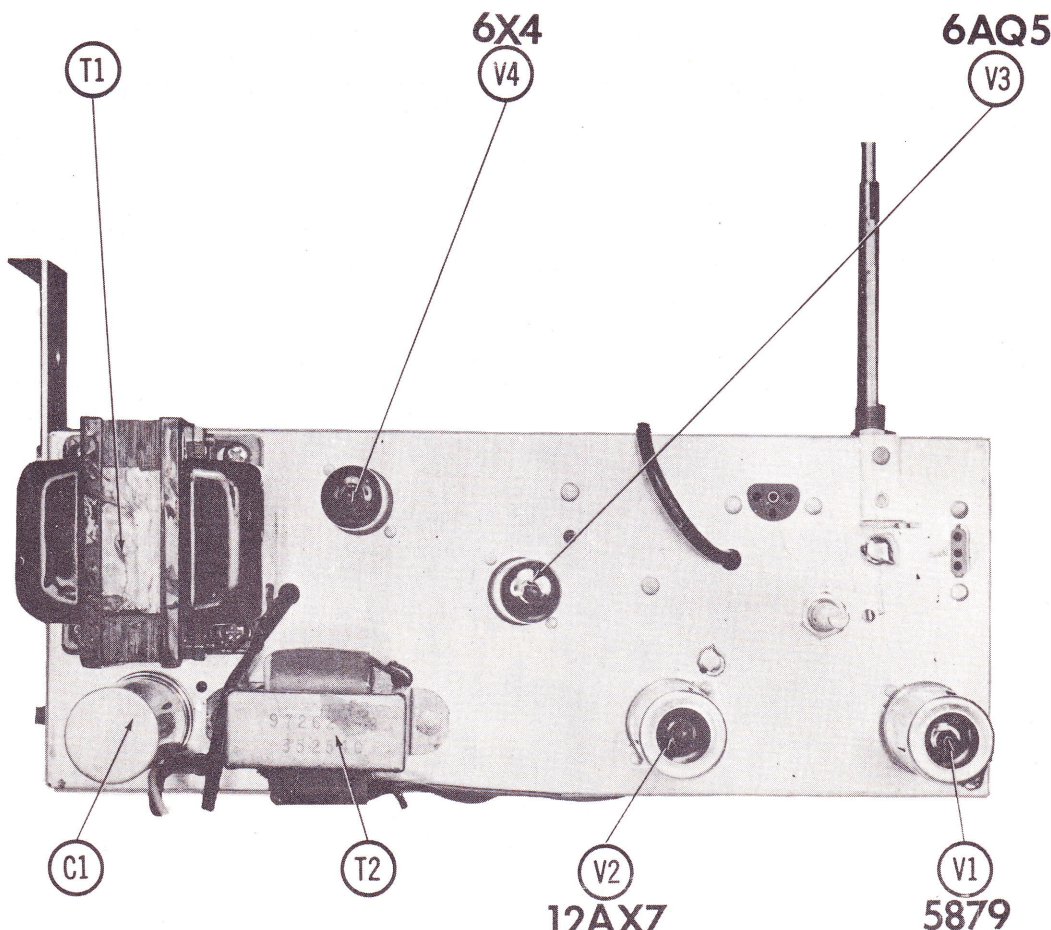


FIGURE 4B. EXPLODED VIEW OF PARTS BELOW BASEPLATE.

CHASSIS—TOP VIEW



PARTS LIST AND DESCRIPTIONS TUBES (GENERAL ELECTRIC, SYLVANIA)

ITEM No.	USE	TYPE	NOTES	ITEM No.	USE	TYPE	NOTES
V1	Playback Preamp/ifier			V3	Output Rectifier	6AQ5	
V2	Bias Osc. AF Amplifier	5879 12AX7		V4		6X4	

ELECTROLYTIC CAPACITORS

ITEM No.	RATING		REPLACEMENT DATA				
	CAP.	VOLT.	AEROVOX PART No.	CORNELL-DUBILIER PART No.	MALLORY PART No.	PYRAMID PART No.	SPRAGUE PART No.
C1A	30	400	101854		FP145		R2330*
C1B	30	400			TC77		R2331*
C2A	10	250	101946		TC77		
C2B	20	350			TC77		
C3	30	350			TC77		
C4	50	6	78573	BBR50-6	TC29	TD-50-6	TVA-1100
C5	50	6	78573	BBR50-6	TC29	TD-50-6	MMT-650
C6	100	25	100552	BRH251	TC2501	TD-100-25	MTH-2510
C7	8	10VAC	100509	PHS10VAC8			TVA-1207

Note #1. Not used in chassis RS-156B

* Non catalog item.

† Connect negative leads together.

FIXED CAPACITORS

Capacity values given in the rating column are in mfd. for Paper Capacitors, and in mmfd. for Mica and Ceramic Capacitors.

ITEM No.	RATING		REPLACEMENT DATA							NOTES
	CAP.	VOLT	RCA VICTOR PART No.	AEROVOX PART No.	CENTRALAB PART No.	CORNELL DUBILIER PART No.	ERE PART No.	MALLORY PART No.	SPRAGUE PART No.	
C7	.01	200	73561	BPD-01	D6-103	CUB4S1	GP-10000	GEM-411	4TM-S1	Note #2
C8	.390	75641	1469-00039	D6-391	5RE5739	ED-390			MS-339	
C9	1500	75610	1464-0015		1RE5D15	ED-1500			MS-215	
C10	.22	200	78905	P2B8N-22		CUB2P22		MCB456	2TM-22	
C11	.047	200	73558	BPD-05	D6-503	CUB2S47		GEM-2022	5GA-T33	
C12	.330	76552	SD330	SD330	D6-331	TP43		UC-5333	5GA-T33	
C13	.047	200	78921-A	BPD-05	D6-503	CUB2S47	GP-330	GEM-4147	5GA-T33	
C14	.820	76864		SD820	D6-820	G067		UC-5382	5GA-T32	
C15	.22	200	101940	S122	D6-220	T722	GP-820	UC-5247	5GA-T32	
C16	.0047	200	101940	BPD-0047	D6-472	CUBS047	GP-4700	GEM-5247	6TM-D42	
C17	.01	200	73551	BPD-01	D6-103	CUB4S1	GP-10000	GEM-411	4TM-S1	
C18	.330	78552	SD330	SD330	D6-331	TP43	GP-330	UC-5333	4TM-S47	
C19	.047	400	78921A	BPD-05	D6-503	CUB4S47		GEM-5247	5GA-T33	
C20	.220	400	102015	S1220	D6-220	TP39	GP-220	UC-5322	5GA-T32	
C21	.0068	400	73789	BPD-0068	D6-682	CUBS068	GP-6800	GEM-6268	6TM-D68	
C22A	4700		BPD-2X0047		DD2-502	DK079	ED-0047	DC525	5HK-2D47	
C22B	4700		76470							

Note #2. Not used in Model 7-TR-2.

CONTROLS

ITEM No.	RATING		REPLACEMENT DATA				INSTALLATION NOTES	
	RESIST-ANCE	WATTS	RCA VICTOR PART No.	CENTRALAB PART No.	CLAROSTAT PART No.	IRC PART No.	MALLORY PART No.	
R1A	250K							
R1B	1Meg							
R2	1002							
R3			971268-20					
R4			943078-1					

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA				REPLACEMENT DATA		NOTES
	OHMS	WATT	RCA VICTOR PART No.	IRC PART No.	NOTES		OHMS	WATT	
R3	27K		502327	BTS-27K					
R4	47K		502347	BTS-47K					
R5	1.5Meg		502515	BTS-1.5Meg					
R6			330002	502233					
R7	15K		502315	BTS-15K					
R8	470K		502447	BTS-470K					

PARTS LIST AND DESCRIPTIONS (Continued)

RESISTORS

All wattages 1/2 watt, or less, unless otherwise listed.

ITEM No.	RATING		REPLACEMENT DATA		NOTES	ITEM No.	RATING		REPLACEMENT DATA		NOTES
	OHMS	WATT	RCA VICTOR PART No.	IRC PART No.			OHMS	WATT	RCA VICTOR PART No.	IRC PART No.	
R9	3.3K	2	100928	BW2-3.3		R22	220K		502432	BTS-220K	
R10	390K		502439	BTS-390K		R23	10K		502310	BTS-10K	
R11	4.7Meg		30931	BTS-4.7Meg	Note #1	R24	3300Ω		502233	BTS-3300	
R12	27K		502327	BTS-27K		R25	47K		502347	BTS-47K	
R13	47K		502347	BTS-47K		R26	470K		502447	BTS-470K	
R14	47K		502347	BTS-47K		R27	1.5Meg	1	502515	BTS-1.5Meg	
R15	22K		502322	BTS-22K		R28	330Ω		512133	BTA-330	
R16	33K		512333	BTS-33K		R29	330K		502433	BTS-330K	
R17	1500Ω		502215	BTS-1500Ω		R30	1MΩ		502433	BTS-1MΩ	
R18	33K		502333	BTS-33K		R31	330K		502433	BTS-330K	
R19	820K		502482	BTS-820K		R32	8.2Ω		101952	BW $\frac{1}{2}$ -8.2	
R20	68K		502368	BTS-68K		R33	8.2Ω		101952	BW $\frac{1}{2}$ -8.2	
R21	470K		502447	BTS-470K		R34	470Ω	2	522147	BTB-470	

Note #1. A 390KΩ @ 1/2 W resistor (Part #502439) used in chassis RS-156B only.

COILS (RF-IF)

ITEM No.	USE	DC RES.		REPLACEMENT DATA		NOTES
		PRI.	SEC.	RCA VICTOR PART No.	MILLER PART No.	
L1	Osc. Coil	42Ω		101722		

TRANSFORMER (POWER)

ITEM No.	RATING			REPLACEMENT DATA		NOTES
	PRI.	SEC. 1	SEC. 2	RCA VICTOR PART No.	Thorndorson PART No.	
T1	117VAC	450VCT	6.3V	101720	Merit P-3147	Thorndorson 24R00U ① R-6A ①

① Tape 5V Winding.

TRANSFORMER (AUDIO OUTPUT)

ITEM No.	IMPEDANCE	RATING		REPLACEMENT DATA		NOTES
		PRI.	SEC.	RCA VICTOR PART No.	Thorndorson PART No.	
T2	5.5K	3-4Ω		101718	A-3019	26S49 S-5Z

SPEAKER

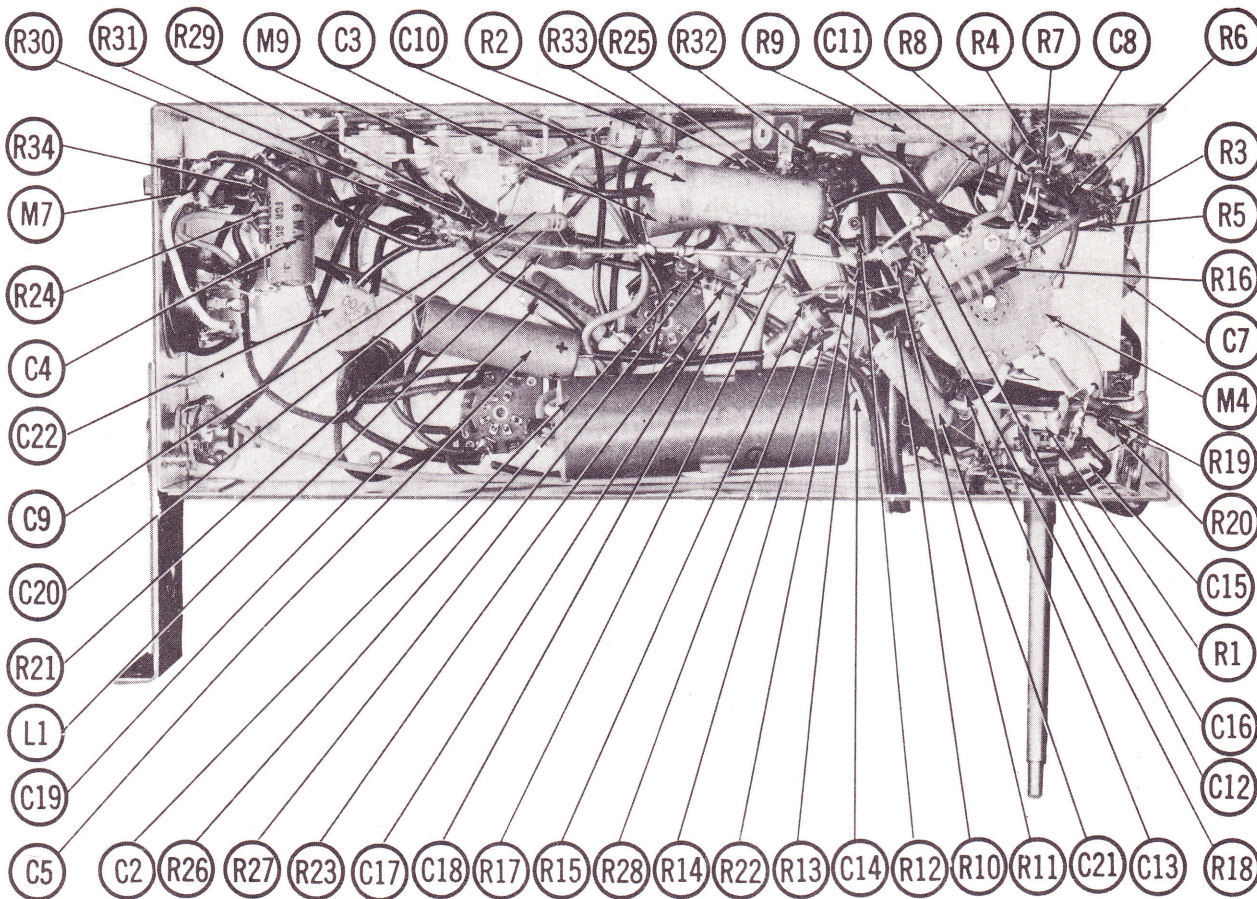
ITEM No.	RATINGS		REPLACEMENT DATA		NOTES
	SIZE	FIELD	RCA VICTOR PART No.	QUAM TYPE No.	
SP1	6 1/2"	PM	100464	6A21	229S1
SP2	3 1/2"	PM	100465	3A15TZ6.6	① Used in Model 7-TR-2, SP1, SP2, & SP3 used in Model 7-TR-3 only.
SP3	3 1/2"	PM	100465	3A15TZ6.6	

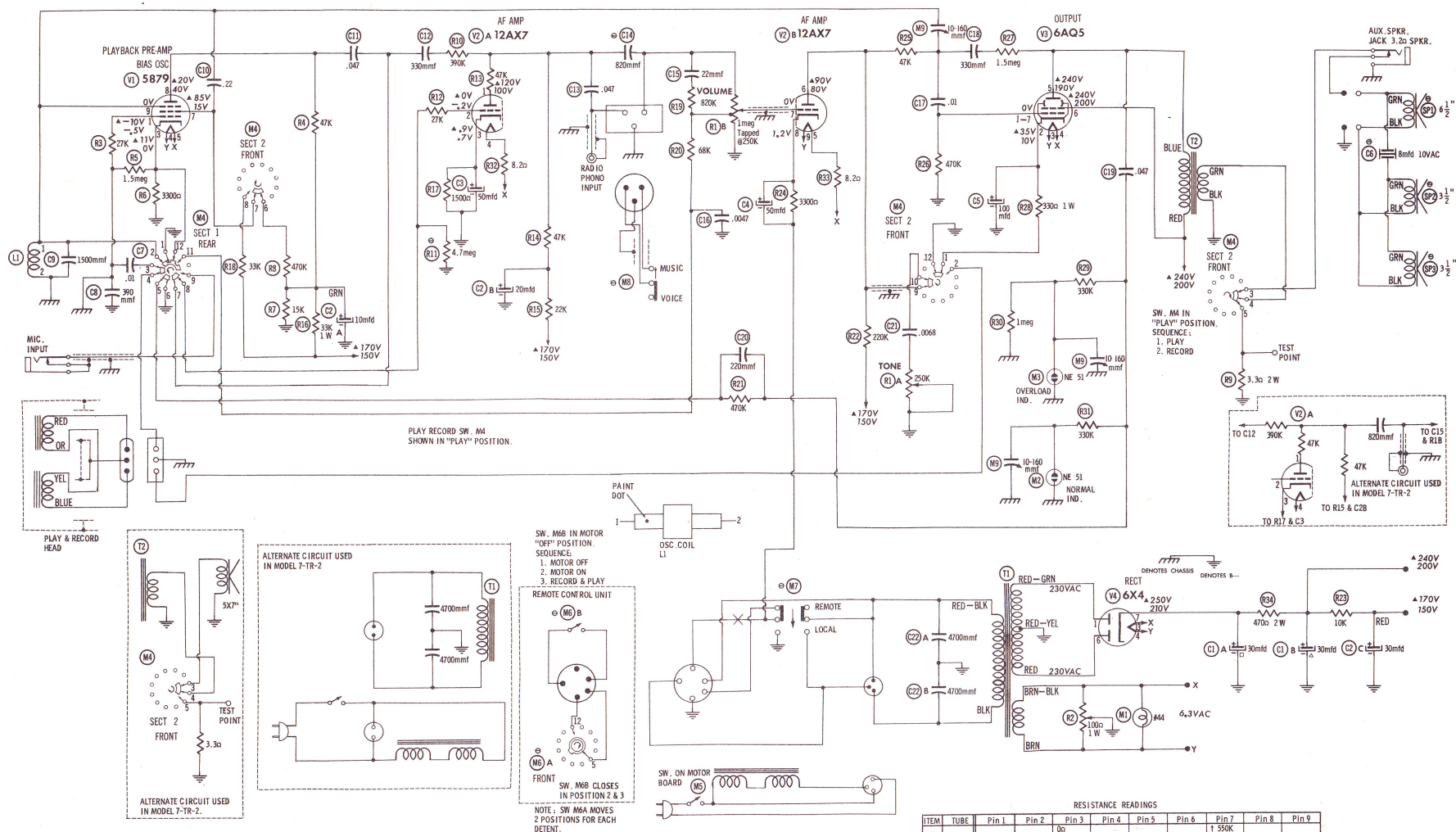
MISCELLANEOUS

ITEM No.	PART NAME	RCA VICTOR PART No.	NOTES
M1	Pilot Lamp		#44
M2	Neon Lamp		#NE51 Normal Record Indicator
M3	Neon Lamp		#NE51 Overload Record Indicator
M4	Switch	101745	Record-play, 2 Gang (Rotary Wafer Type)
M5	Switch	101484	On-Off (Part of Tape Transport Mech.)
M6A	Switch		Remote Control Power Switch
M7	Switch	102005	Remote Control Selector (Rotary Wafer Type) Note #1
M8	Switch	101956	Remote-Local Selector (DPDT Slide Type) Note #1
M9	Trimmer Cap	101770	Voice-Music (SPDT Slide Type) Note #1
	Handle	101912	3 Gang (10-160mmf, 10-160mmf, 10-160mmf)
	Knob	101715	Model 7-TR-2
	Knob	101704	Model 7-TR-3
	Knob	101706	On-Off-Speed Selector
	Knob	101705	Tone Volume

Note #1. Used in Model 7TR-3 Chassis RS-156 Only.

CHASSIS—BOTTOM VIEW





A PHOTOFACT STANDARD NOTATION SCHEMATIC
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RESISTANCE READINGS										
ITEM	TUBE	Pin 1	Pin 2	Pin 3	Pin 4	Pin 5	Pin 6	Pin 7	Pin 9	
V1	5879	1.7Meg	TP	0Ω ±3300Ω	23Ω	23Ω	TP	↑ 1500K ↓ ± 43K	190K	46Ω-
V2	12AX7	↑ 120K	5.3Meg	1500Ω	26Ω	26Ω	↑ 220K	18Ω	3300Ω	23Ω
V3	6AQ5	470K	330Ω	23Ω	23Ω	↑ 750Ω	↑ 470Ω	470K		
V4	6X4	280Ω	NC	23Ω	23Ω	NC	280Ω	400K		

ALL MEASUREMENTS TAKEN IN "PLAY" POSITION UNLESS OTHERWISE NOTED.
 * MEASURED IN "RECORD" POSITION.
 NC NO CONNECTION
 † MEASURED FROM PIN 7 OF V4.

⑨ SEE PARTS LIST FOR ALTERNATE
VALUE OR APPLICATION

front-to-rear position of the Record/ Play head (17). Although the mounting lugs of the head are slotted, the correct position of the head is as far forward as possible.

The pressure pad assembly must not bind on its mounting when pressed against the head. There must be clearance between the retaining lugs of the pad assembly and its mounting.

Brake Pad Adjustment-

Both brake pads (66 and 65) should engage their respective drums with equal force and at their respective drums with equal force and at the same instant. The brake pads should engage the drums (82 and 130) with the maximum pad area-brake arm must not be bent at an angle to equalize timing. Unequal brake pad wear will be due to a rough brake drum.

Brake pad adjustment is accomplished by bending the ends of the brake arm actuating lever (64). For access to ends of actuating lever, remove drive pulley (115).

Pressure Roller Adjustment-

The pressure roller (21) holds the tape tight against the capstan (48) during Record and Play. The force is mainly derived from the formed spring (59) on the pressure roller arm (57). One mounting hole of the spring is slotted to permit adjustment.

To determine spring tension: — loop a string over that part of the pressure roller arm (57) on which the pressure pad assembly (52) is mounted and, with a spring scale, measure the force necessary to pull the pressure roller away from the capstan. With a direct pull on the string (string in slot between "Rewind and "Fast Forward" pushbuttons), a force of 4 to 6 pounds should be necessary to pull the pressure roller away from the capstan.

TROUBLES

Fails To Erase-

1. Weak output tube 6AQ5.

2. Left hand tape guide (25) improperly adjusted.

3. Open erase coil in head (17).

4. Incorrect value of resistance (R28), high resistance or open cathode circuit will result in insufficient current or no current in erase coil.

No Drive On Takeup Reel-

1. Takeup drive belt (83) loose or broken.
2. Takeup hub (1) bearing binding.
3. Tape improperly threaded.

Breaking Of Tape-

Frequent breaking of tape may be caused by improper adjustment of brakes, See "Brake Pad Adjustment".

No Fast Forward Or Rewind-

1. Broken pressure spring on arm (116) or arm (72).
2. Fast forward drive idler (78) or rewind drive idler (119) missing.

"Record" Or "Play" Pushbuttons Cannot Be Depressed-

Latch bar tension spring (14) missing.

Speed Change Control Cannot Be Turned-

1. Latch bar tension spring (24) loose or broken.
2. Latch bar bent. Bar remains engage with dentent collar.

Tape Overruns Or Spills When Stop Bar Is Depressed During Fast Forward Or Rewind-

1. Brakes not adjusted properly ("See Brake Pad Adjustment").
2. Brake pads worn out.
3. Brake spring (69 and 110) loose or missing.

MECHANICAL PARTS LIST

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
1	101469	Right Hand Reel Hub & Shaft Assembly	14	101514	Interlock Bar
2		Volume Knob	15	101444	Interlock Bar Tension Spring
3		Tone Knob			Motorboard Subassembly
4		#6-32 x 3/4" Fil. Head Screw		101908	Motorboard Subassembly
5		#8-32 x 1/2" Long Screw			For TR-2-2
6	101525	Escutcheon For TR-2-1	16		#6-32 x 1/4" Fil. Head Screw
	101911	Escutcheon For TR-2-2	17	101494	Record/ Play/ Erase Head
7	101703	Front Control Escutcheon For TR-2-1	18	101501	Grip Ring (retainer)
	101910	Front Control Escutcheon For TR-2-2	19	101507	Flat Metal Washer
8	101471	Left Hand Reel Hub & Shaft Assembly	20	101523	Cambric Washer
9		On-Off & Speed Control	21	101475	Tape Pressure Roller
10		#6-32 x 3/8" Long Screw	22	101523	Cambric Washer
11		#6-32 x 3/16" Binding Head Screw	23	101956	Tape Guide Post (2 req'd.)
12	101707	Microphone Housing (Well)	24	101517	Grip Ring (retainer)
13	101483	Fast Forward Or Rewind	25	101493	Tape Guide Post (2 req'd.)
			26		#6-32 x 1/4 Fil. Head Screw
			27		#6 Split Lockwasher
			28	101487	Retainer-Pushbutton Assembly
			29		#6-32 x 1/4" Fil. Head Screw

MECHANICAL PARTS LIST (Con't.)

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
30		#6 Split Lockwasher	80	101503	Rubber Washer 1/2" O. P.
31		Pilot Light Bracket	81	101500	Grip Ring
32	101480	Tape Counter (Used On TR-2-1 Only)	82	101470	Takeup Drive Pulley
33		#6-32 x 1/4" Fil. Head Screw	83	101445	Takeup Drive Belt, Coil Spring
34		#6 Split Lockwasher	84	101476	Capstan Drive Flywheel
35		Front Escutcheon Mounting Bracket	85	101508	"C" Ring (retainer)
36	101744	Pushbutton Return Spring	86	78719	Flat Washer (Metal)
37	101486	Pivot Shaft For Pushbutton	87	74078	Cambric Washer
38	14974	#8 x 3/16" Set Screw	88	101505	#6-32 x 1/4" Set Screw
39	101481	Interlock Detent Collar	89	101455	Speed Changer Eccentric
40	101454	Speed Change Detent Spring	90	101492	Speed Change Idler Wheel
41		#6-32 x 3/16" Fil. Head Screw	91	101521	Phenolic Washer
42		#6 Split Lockwasher	92	101520	Arm - 7.5"/sec. Speed Change Arm
43	101464	"Play" Button & Cam Assembly	93	101512	Speed Changer Arm Spring
44	101466	"Fast Forward" Button Cam Assembly	94	101521	Phenolic Washer
46	101491	"Record" Button & Safety Lever Assembly	95	101521	Phenolic Washer
47	101478	Stop Bar (Plastic Bar Only)	96	101522	Phenolic Washer
48	101474	Capstan Shaft	97	101453	Speed Change Shaft & Lever
49	101516	Pushbutton Shaft	98	101519	3.75"/sec. Speed Change Arm
50	101517	Grip Ring (retainer)	99	101512	Speed Change Arm Spring
51	101452	Pushbutton Latch Mounting Bracket	100	101505	#6-32 x 1/4" Set Screw
52	101490	Pressure Pad Assembly	101	101455	Speed Change Eccentric
53	101479	Pressure Pad Spring	102	102354	Nylon Bushing 1/8" I. D.
54		Washer #6	103	71099	Fast Forward Slide Return Spring
55		Screw #6-32 x 3/16" Fil. Head	104	101482	Speed Change Idler Wheel (3.75"/sec. Speed)
56	71099	Pressure Roller Arm Return Spring	105	78719	Flat Washer (Metal)
57	101449	Pressure Roller Arm	106	101508	"C" Retainer
58	101957	Pressure Roller Arm Support Plate	107	101521	Phenolic Washer
59	101450	Pressure Roller Arm Formed Spring	108	101517	Grip Ring
60	101592	Set Screw #8-32 x 1/4"	109	101767	Brake Arm Retaining Collar
61	101448	Pressure Roller Arm Retaining Collar	110	101511	Brake Arm Spring
62		Washer - #6 External Tooth Lockwasher	111		Clip
63		#32 x 3/16" Fil. Head Screw	112	71099	Rewind Slide Return Spring
64	101446	Brake Release Slide	113	101456	Rewind Drive Idler Actuating Slide
65	101499	Brake R. H. Brake Arm With Pad	114	101458	Main Drive Belt (Rubber)
66	101497	Brake L. H. Brake Arm With Pad	115	101473	Motor Drive Pulley
67	101592	#8-32 x 1/4" Set Screw	116	101500	Grip Ring
68	101767	Brake Arm Retaining Collar	117	101503	Rubber Washer 3/8" O. D.
69	101511	Brake Arm Spring	118	101502	Phenolic Washer 1/2 O. D.
70	101451	Pressure Roller Arm Actuating Slide	119	101467	Rewind Drive Roller
71		Clip	120	101504	Rubber Washer 1/2 O. D.
72	101447	Fast Forward Drive Roller Actuating Slide Assembly	121	101591	Phenolic Washer 1/2" O. D.
73	101500	Grip Ring	122	101502	Phenolic Washer 1/2 O. D.
74	71099	Pressure Roller Arm Return Spring	123	101503	Rubber Washer 3/8" O. D.
75	101500	Grip Ring	124	101500	Grip Ring
76	101503	Rubber Washer 3/8" O. P.	125	101472	Main Drive Dual Pulley Ass'y.
77	101502	Phenolic Washer 1/2" O. P.	126	101591	Phenolic Washer 1/2" O. D. x .250 ID x .010" thk.
78	101463	Fast Forward Drive Roller (Rubber)	127	101504	Rubber Washer
79	101502	Phenolic Washer 1/2" O. P.	128	101501	Grip Ring
			129	101457	Counter Drive Belt (Rubber)
			130	101468	Rewind Drive Pulley
			131		Nut - #10-32 Hex Nut
			132		Washer - #10 Split Lockwasher
			133		Flat Metal 1/2" O. D. Washer
			134	101510	Motor Mounting Spacer
			135	101509	Motor Mounting Grommet
			136		Motor Mounting Plate & Capstan Shaft Bearing Plate Ass'y.
			137	101461	Drive Motor
			138	101462	Motor Fan
			139		#10-32 x 1/4" Set Screw